

From: [REDACTED]@fireandemergency.nz>
Sent: Tuesday, October 31, 2023 3:43 PM
To: [REDACTED]@collettgroup.co.nz>
Subject: RE: Tahimana Development

Gidday [REDACTED],

Apologies for the delay.

I think [REDACTED] and I discussed it being a pressure fed supply for the project, therefore we would not be required to draught (suck) the water from the pipeline. If this is the case, then we would be looking for a minimum of 350kPa at each hydrant, with a flow rate of 750 L/min from each hydrant (first within 135m, 2nd within 270m). These are the flow rates for domestic dwellings, extra hydrants are required within the 135/270m distances for commercial buildings.

If we are to draught the water, then we are looking to achieve 1500 L/min for 30 minutes from the single draughting point. Vertical lift impacts the volume of water we can pump, the rated capacity is a 3.0m lift. Appliance access and distance to structures also need to be considered as a part of this. Over 3m the following are the capacity losses:

- (a) 3.0 m lift – rated capacity of the pump;
- (b) 4.5 m lift – 1/7 loss of capacity;
- (c) 6.0 m lift – 1/3 loss of capacity;
- (d) 7.0 m lift – 1/2 loss of capacity; and
- (e) 7.5 m lift – 2/3 loss of capacity.

Further info can be found in the Code of Practice Fire Fighting Water Supplies (SNZ PAS 4509:2008), I recall [REDACTED] and I discussing some options along these lines.

Happy to discuss or provide more detail if needed.

Regards

[REDACTED]
Senior Advisor Risk Reduction
Specialist Fire Investigator
Certified Domestic Sprinkler Designer

Nelson Marlborough District HQ
Nelson Fire Station
[REDACTED]
[REDACTED]

<image002.png>

[REDACTED]
[REDACTED]@fireandemergency.nz
www.fireandemergency.nz